

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/804,166DATE: 04/10/97
TIME: 08:46:56

INPUT SET: S16859.raw

This Raw Listing contains the General
Information Section and up to the first 5 pages.

1
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46

SEQUENCE LISTING

(1) General Information:

(i) APPLICANT: Campbell, Robert K.
Jameson, Bradford A.
Chappel, Scott C.

(ii) TITLE OF INVENTION: HYBRID PROTEINS

(iii) NUMBER OF SEQUENCES: 22

(iv) CORRESPONDENCE ADDRESS:
(A) ADDRESSEE: BROWDY AND NEIMARK
(B) STREET: 419 Seventh Street N.W., Ste. 300
(C) CITY: Washington
(D) STATE: D.C.
(E) COUNTRY: USA
(F) ZIP: 22207

(v) COMPUTER READABLE FORM:
(A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30

(vii) ~~+~~ PRIOR APPLICATION DATA:
(A) APPLICATION NUMBER: 60/011,936
(B) FILING DATE: 20 February 1996
(C) CLASSIFICATION:

(viii) ATTORNEY/AGENT INFORMATION:
(A) NAME: Browdy, Roger L.
(B) REGISTRATION NUMBER: 25,618
(C) REFERENCE/DOCKET NUMBER: CAMPBELL=2A

(ix) TELECOMMUNICATION INFORMATION:
(A) TELEPHONE: (202) 628-5197
(B) TELEFAX: (202) 737-3528

(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 1049 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single

Does Not Comply
Corrected Diskette Needed

insert
(vi) CORR. APP. DATA:
heading and
subheadings

RAW SEQUENCE LISTING

PATENT APPLICATION US/08/804,166

DATE: 04/10/97
TIME: 08:46:58

INPUT SET: S16859.raw

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47         (D) TOPOLOGY: linear
48     (ii) MOLECULE TYPE: cDNA
49
50     (ix) FEATURE:
51         (A) NAME/KEY: CDS
52         (B) LOCATION: 278..1047
53
54     (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:
55
56     TCCACATGGC TACAGGTAAG CGCCCCCTAAA ATCCCTTTGG GCACAATGTG TCCTGAGGGG      60
57
58     AGAGGCAGCG ACCTGTAGAT GGGACGGGGG CACTAACCCT CAGGTTTGGG GCTTCTCAAT      120
59
60     CTCACTATCG CCATGTAAGC CCAGTATTTG GCCAATCTCA GAAAGCTCCT CCTCCCTGGA      180
61
62     GGGATGGAGA GAGAAAAACA AACAGCTCCT GGAGCAGGGA GAGTGCTGGC CTCTTGCTCT      240
63
64     CCGGCTCCCT CTGTTGCCCT CTGGTTTCTC CCCAGGC TCC CGG ACG TCC CTG CTC      295
65                                     Ser Arg Thr Ser Leu Leu
66                                     1                               5
67
68     CTG GCT TTT GGC CTG CTC TGC CTG CCC TGG CTT CAA GAG GGC AGT GCC      343
69     Leu Ala Phe Gly Leu Leu Cys Leu Pro Trp Leu Gln Glu Gly Ser Ala
70                                     10                               15                               20
71
72     GAT AGT GTG TGT CCC CAA GGA AAA TAT ATC CAC CCT CAA AAT AAT TCC      391
73     Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser
74                                     25                               30                               35
75
76     ATT TGC TGT ACC AAG TGC CAC AAA GGA ACC TAC TTG TAC AAT GAC TGT      439
77     Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys
78                                     40                               45                               50
79
80     CCA GGC CCG GGG CAG GAT ACG GAC TGC AGG GAG TGT GAG AGC GGC TCC      487
81     Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser
82     55                               60                               65                               70
83
84     TTC ACC GCT TCA GAA AAC CAC CTC AGA CAC TGC CTC AGC TGC TCC AAA      535
85     Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys
86                                     75                               80                               85
87
88     TGC CGA AAG GAA ATG GGT CAG GTG GAG ATC TCT TCT TGC ACA GTG GAC      583
89     Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp
90                                     90                               95                               100
91
92     CGG GAC ACC GTG TGT GGC TGC AGG AAG AAC CAG TAC CGG CAT TAT TGG      631
93     Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp
94     105                               110                               115
95
96     AGT GAA AAC CTT TTC CAG TGC TTC AAT TGC AGC CTC TGC CTC AAT GGG      679
97     Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly
98     120                               125                               130
99

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RAW SEQUENCE LISTING PATENT APPLICATION US/08/804,166

DATE: 04/10/97
TIME: 08:47:00

INPUT SET: S16859.raw

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100 ACC GTG CAC CTC TCC TGC CAG GAG AAA CAG AAC ACC GTG TGC ACC TGC 727
101 Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys
102 135 140 145 150
103
104 CAT GCA GGT TTC TTT CTA AGA GAA AAC GAG TGT GTC TCC TGT GCC GGT 775
105 His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ala Gly
106 155 160 165
107
108 GCT GCC CCA GGT TGC CCA GAA TGC ACG CTA CAG GAA AAC CCA TTC TTC 823
109 Ala Ala Pro Gly Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro Phe Phe
110 170 175 180
111
112 TCC CAG CCG GGT GCC CCA ATA CTT CAG TGC ATG GGC TGC TGC TTC TCT 871
113 Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys Phe Ser
114 185 190 195
115
116 AGA GCA TAT CCC ACT CCA CTA AGG TCC AAG AAG ACG ATG TTG GTC CAA 919
117 Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu Val Gln
118 200 205 210
119
120 AAG AAC GTC ACC TCA GAG TCC ACT TGC TGT GTA GCT AAA TCA TAT AAC 967
121 Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser Tyr Asn
122 215 220 225 230
123
124 AGG GTC ACA GTC ATG GGG GGT TTC AAA GTG GAG AAC CAC ACG GGG TGC 1015
125 Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr Gly Cys
126 235 240 245
127
128 CAC TGC AGT ACT TGT TAT TAT CAC AAA TCT TA AG 1049
129 His Cys Ser Thr Cys Tyr Tyr His Lys Ser
130 250 255
131
132
133
134
135 (2) INFORMATION FOR SEQ ID NO:2:
136
137 (i) SEQUENCE CHARACTERISTICS:
138 (A) LENGTH: 256 amino acids
139 (B) TYPE: amino acid
140 (D) TOPOLOGY: linear
141
142 (ii) MOLECULE TYPE: protein
143
144 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:
145
146 Ser Arg Thr Ser Leu Leu Leu Ala Phe Gly Leu Leu Cys Leu Pro Trp
147 1 5 10 15
148
149 Leu Gln Glu Gly Ser Ala Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile
150 20 25 30
151
152 His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr

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RAW SEQUENCE LISTING PATENT APPLICATION US/08/804,166

DATE: 04/10/97
TIME: 08:47:03

INPUT SET: S16859.raw

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153          35          40          45
154
155 Tyr  Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg
156      50          55          60
157
158 Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu Arg His
159 65          70          75          80
160
161 Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile
162      85          90          95
163
164 Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn
165      100          105          110
166
167 Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys
168      115          120          125
169
170 Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln
171      130          135          140
172
173 Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu Asn Glu
174 145          150          155          160
175
176 Cys Val Ser Cys Ala Gly Ala Ala Pro Gly Cys Pro Glu Cys Thr Leu
177      165          170          175
178
179 Gln Glu Asn Pro Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys
180      180          185          190
181
182 Met Gly Cys Cys Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys
183      195          200          205
184
185 Lys Thr Met Leu Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys
186      210          215          220
187
188 Val Ala Lys Ser Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val
189 225          230          235          240
190
191 Glu Asn His Thr Gly Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
192      245          250          255
193
194

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(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1202 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

RAW SEQUENCE LISTING PATENT APPLICATION US/08/804,166

 DATE: 04/10/97
 TIME: 08:47:05

INPUT SET: S16859.raw

206 (A) NAME/KEY: CDS
 207 (B) LOCATION: 279..1199
 208
 209 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:
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 211 CTCGAGATGG CTACAGGTAA GCGCCCCTAA AATCCCTTTG GGCACAATGT GTCCTGAGGG 60
 212
 213 GAGAGGTAGC GACCTGTAGA TGGGACGGGG GCACTAACCC TGAGGTTTGG GGCTTCTGAA 120
 214
 215 TGTGAGTATC GCCATGTAAG CCCAGTATTT GGCCAATGTC AGAAAGCTCC TGGTCCCTGG 180
 216
 217 AGGGATGGAG AGAGAAAAAC AAACAGCTCC TGGAGCAGGG AGAGTGCTGG CCTCTTGCTC 240
 218
 219 TCCGGCTCCC TCTGTTGCCC TGTGGTTTCT CCCCAGGC TCC CGG ACG TCC CTG 293
 220 Ser Arg Thr Ser Leu
 221 260
 222
 223 CTC CTG GCT TTT GGC CTG CTC TGC CTG CCC TGG CTT CAA GAG GGC AGT 341
 224 Leu Leu Ala Phe Gly Leu Leu Cys Leu Pro Trp Leu Gln Glu Gly Ser
 225 265 270 275
 226
 227 GCC GAT AGT GTG TGT CCC CAA GGA AAA TAT ATC CAC CCT CAA AAT AAT 389
 228 Ala Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn
 229 280 285 290
 230
 231 TCG ATT TGC TGT ACC AAG TGC CAC AAA GGA ACC TAC TTG TAC AAT GAC 437
 232 Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp
 233 295 300 305
 234
 235 TGT CCA GGC CCG GGG CAG GAT ACG GAC TGC AGG GAG TGT GAG AGC GGC 485
 236 Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly
 237 310 315 320 325
 238
 239 TCT TTC ACC GCT TCA GAA AAC CAC CTC AGA CAC TGC CTC AGC TGC TCC 533
 240 Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser
 241 330 335 340
 242
 243 AAA TGC CGA AAG GAA ATG GGT CAG GTG GAG ATC TCT TCT TGC ACA GTG 581
 244 Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val
 245 345 350 355
 246
 247 GAC CGG GAC ACC GTG TGT GGC TGC AGG AAG AAC CAG TAC CGG CAT TAT 629
 248 Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr
 249 360 365 370
 250
 251 TGG AGT GAA AAC CTT TTC CAG TGC TTC AAT TGC AGC CTC TGC CTC AAT 677
 252 Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn
 253 375 380 385
 254
 255 GGG ACC GTG CAC CTC TCC TGC CAG GAG AAA CAG AAC ACC GTG TGC ACC 725
 256 Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr
 257 390 395 400 405
 258

PAGE: 1

SEQUENCE MISSING ITEM REPORT
PATENT APPLICATION US/08/804,166

DATE: 04/10/97
TIME: 08:47:08

INPUT SET: S16859.raw

APPLICATION NUMBER
FILING DATE
CLASSIFICATION
CURRENT APPLICATION DATA

CRF Errors Corrected by the STIC System Branch

Team 3
4/10/97

Serial Number: 08/804,166

CRF Processing Date: _____
 Edited by: _____
 Verified by: AK (STIC staff)

ENTERED

- ☐ Changed a file from non-ASCII to ASCII
- ☐ Changed the margins in cases where the sequence text was "wrapped" down to the next line.
- ☐ Edited a format error in the Current Application Data section, specifically: _____
- ☐ Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other _____
- ☒ Added the mandatory heading and subheadings for "Current Application Data".
- ☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.
- ☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically: _____
- ☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were: _____
- ☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited: _____
- ☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.
- ☐ Inserted colons after headings/subheadings. Headings edited included: _____
- ☐ Deleted extra, invalid, headings used by an applicant, specifically: _____
- ☐ Deleted: ☐ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as _____
- ☐ Inserted mandatory headings, specifically: _____
- ☐ Corrected an obvious error in the response, specifically: _____
- ☐ Edited identifiers where upper case is used but lower case is required, or vice versa.
- ☐ Corrected an error in the Number of Sequences field, specifically: _____
- ☐ A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.
- ☐ Deleted **ending** stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: _____
- ☐ Other: _____

***Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.**

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/804,166DATE: 04/10/97
TIME: 17:05:27

INPUT SET: S16859.raw

This Raw Listing contains the General
Information Section and up to the first 5 pages.

ENTERED

SEQUENCE LISTING

1
2
3 (1) General Information:
4
5 (i) APPLICANT: Campbell, Robert K.
6 Jameson, Bradford A.
7 Chappel, Scott C.
8
9 (ii) TITLE OF INVENTION: HYBRID PROTEINS
10
11 (iii) NUMBER OF SEQUENCES: 22
12
13 (iv) CORRESPONDENCE ADDRESS:
14 (A) ADDRESSEE: BROWDY AND NEIMARK
15 (B) STREET: 419 Seventh Street N.W., Ste. 300
16 (C) CITY: Washington
17 (D) STATE: D.C.
18 (E) COUNTRY: USA
19 (F) ZIP: 22207
20
21 (v) COMPUTER READABLE FORM:
22 (A) MEDIUM TYPE: Floppy disk
23 (B) COMPUTER: IBM PC compatible
24 (C) OPERATING SYSTEM: PC-DOS/MS-DOS
25 (D) SOFTWARE: PatentIn Release #1.0, Version #1.30
26
27 (vi) CURRENT APPLICATION DATA:
28 (A) APPLICATION NUMBER:
29 (B) FILING DATE:
30 (C) CLASSIFICATION:
31
32 (vii) PRIOR APPLICATION DATA:
33 (A) APPLICATION NUMBER: 60/011,936
34 (B) FILING DATE: 20 February 1996
35 (C) CLASSIFICATION:
36
37 (viii) ATTORNEY/AGENT INFORMATION:
38 (A) NAME: Browdy, Roger L.
39 (B) REGISTRATION NUMBER: 25,618
40 (C) REFERENCE/DOCKET NUMBER: CAMPBELL=2A
41
42 (ix) TELECOMMUNICATION INFORMATION:
43 (A) TELEPHONE: (202) 628-5197
44 (B) TELEFAX: (202) 737-3528
45
46 (2) INFORMATION FOR SEQ ID NO:1:

RAW SEQUENCE LISTING PATENT APPLICATION US/08/804,166

DATE: 04/10/97
TIME: 17:05:30

INPUT SET: S16859.raw

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47
48      (i) SEQUENCE CHARACTERISTICS:
49          (A) LENGTH: 1049 base pairs
50          (B) TYPE: nucleic acid
51          (C) STRANDEDNESS: single
52          (D) TOPOLOGY: linear
53      (ii) MOLECULE TYPE: cDNA
54
55      (ix) FEATURE:
56          (A) NAME/KEY: CDS
57          (B) LOCATION: 278..1047
58
59      (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:
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61      TCCACATGGC TACAGGTAAG CGCCCCTAAA ATCCCTTTGG GCACAATGTG TCCTGAGGGG      60
62
63      AGAGGCAGCG ACCTGTAGAT GGGACGGGGG CACTAACCCT CAGGTTTGGG GCTTCTCAAT      120
64
65      CTCACTATCG CCATGTAAGC CCAGTATTTG GCCAATCTCA GAAAGCTCCT CCTCCCTGGA      180
66
67      GGGATGGAGA GAGAAAAACA AACAGCTCCT GGAGCAGGGA GAGTGCTGGC CTCTTGCTCT      240
68
69      CCGGCTCCCT CTGTTGCCCT CTGGTTTCTC CCCAGGC TCC CGG ACG TCC CTG CTC      295
70                      Ser Arg Thr Ser Leu Leu
71                      1                      5
72
73      CTG GCT TTT GGC CTG CTC TGC CTG CCC TGG CTT CAA GAG GGC AGT GCC      343
74      Leu Ala Phe Gly Leu Leu Cys Leu Pro Trp Leu Gln Glu Gly Ser Ala
75                      10                      15                      20
76
77      GAT AGT GTG TGT CCC CAA GGA AAA TAT ATC CAC CCT CAA AAT AAT TCC      391
78      Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser
79                      25                      30                      35
80
81      ATT TGC TGT ACC AAG TGC CAC AAA GGA ACC TAC TTG TAC AAT GAC TGT      439
82      Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys
83                      40                      45                      50
84
85      CCA GGC CCG GGG CAG GAT ACG GAC TGC AGG GAG TGT GAG AGC GGC TCC      487
86      Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser
87      55                      60                      65                      70
88
89      TTC ACC GCT TCA GAA AAC CAC CTC AGA CAC TGC CTC AGC TGC TCC AAA      535
90      Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys
91                      75                      80                      85
92
93      TGC CGA AAG GAA ATG GGT CAG GTG GAG ATC TCT TCT TGC ACA GTG GAC      583
94      Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp
95                      90                      95                      100
96
97      CGG GAC ACC GTG TGT GGC TGC AGG AAG AAC CAG TAC CGG CAT TAT TGG      631
98      Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp
99                      105                      110                      115

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RAW SEQUENCE LISTING PATENT APPLICATION US/08/804,166

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100
101 AGT GAA AAC CTT TTC CAG TGC TTC AAT TGC AGC CTC TGC CTC AAT GGG      679
102 Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly
103      120                      125                      130
104
105 ACC GTG CAC CTC TCC TGC CAG GAG AAA CAG AAC ACC GTG TGC ACC TGC      727
106 Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys
107 135                      140                      145                      150
108
109 CAT GCA GGT TTC TTT CTA AGA GAA AAC GAG TGT GTC TCC TGT GCC GGT      775
110 His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ala Gly
111                      155                      160                      165
112
113 GCT GCC CCA GGT TGC CCA GAA TGC ACG CTA CAG GAA AAC CCA TTC TTC      823
114 Ala Ala Pro Gly Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro Phe Phe
115      170                      175                      180
116
117 TCC CAG CCG GGT GCC CCA ATA CTT CAG TGC ATG GGC TGC TGC TTC TCT      871
118 Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys Phe Ser
119      185                      190                      195
120
121 AGA GCA TAT CCC ACT CCA CTA AGG TCC AAG AAG ACG ATG TTG GTC CAA      919
122 Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu Val Gln
123      200                      205                      210
124
125 AAG AAC GTC ACC TCA GAG TCC ACT TGC TGT GTA GCT AAA TCA TAT AAC      967
126 Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser Tyr Asn
127 215                      220                      225                      230
128
129 AGG GTC ACA GTC ATG GGG GGT TTC AAA GTG GAG AAC CAC ACG GGG TGC      1015
130 Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr Gly Cys
131                      235                      240                      245
132
133 CAC TGC AGT ACT TGT TAT TAT CAC AAA TCT TA AG      1049
134 His Cys Ser Thr Cys Tyr Tyr His Lys Ser
135      250                      255
136
137
138
139

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(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 256 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

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151 Ser Arg Thr Ser Leu Leu Leu Ala Phe Gly Leu Leu Cys Leu Pro Trp
152   1           5           10           15

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RAW SEQUENCE LISTING PATENT APPLICATION US/08/804,166

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INPUT SET: S16859.raw

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153
154 Leu Gln Glu Gly Ser Ala Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile
155           20           25           30
156
157 His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr
158           35           40           45
159
160 Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg
161           50           55           60
162
163 Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu Arg His
164           65           70           75           80
165
166 Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile
167           85           90           95
168
169 Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn
170           100          105          110
171
172 Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys
173           115          120          125
174
175 Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln
176           130          135          140
177
178 Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu Asn Glu
179           145          150          155          160
180
181 Cys Val Ser Cys Ala Gly Ala Ala Pro Gly Cys Pro Glu Cys Thr Leu
182           165          170          175
183
184 Gln Glu Asn Pro Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys
185           180          185          190
186
187 Met Gly Cys Cys Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys
188           195          200          205
189
190 Lys Thr Met Leu Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys
191           210          215          220
192
193 Val Ala Lys Ser Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val
194           225          230          235          240
195
196 Glu Asn His Thr Gly Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
197           245          250          255
198
199

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(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1202 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

RAW SEQUENCE LISTING PATENT APPLICATION US/08/804,166

DATE: 04/10/97
TIME: 17:05:41

INPUT SET: S16859.raw

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206         (D) TOPOLOGY: linear
207
208         (ii) MOLECULE TYPE: cDNA
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210         (ix) FEATURE:
211             (A) NAME/KEY: CDS
212             (B) LOCATION: 279..1199
213
214         (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:
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216 CTCGAGATGG CTACAGGTAA GCGCCCCTAA AATCCCTTTG GGCACAATGT GTCCTGAGGG      60
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218 GAGAGGTAGC GACCTGTAGA TGGGACGGGG GCACTAACCC TGAGGTTTGG GGCTTCTGAA      120
219
220 TGTGAGTATC GCCATGTAAG CCCAGTATTT GGCCAATGTC AGAAAGCTCC TGGTCCCTGG      180
221
222 AGGGATGGAG AGAGAAAAAC AAACAGCTCC TGGAGCAGGG AGAGTGCTGG CCTCTTGCTC      240
223
224 TCCGGCTCCC TCTGTTGCCC TGTGGTTTCT CCCCAGGC TCC CGG ACG TCC CTG      293
225                                     Ser Arg Thr Ser Leu
226                                     260
227
228 CTC CTG GCT TTT GGC CTG CTC TGC CTG CCC TGG CTT CAA GAG GGC AGT      341
229 Leu Leu Ala Phe Gly Leu Leu Cys Leu Pro Trp Leu Gln Glu Gly Ser
230         265                               270                               275
231
232 GCC GAT AGT GTG TGT CCC CAA GGA AAA TAT ATC CAC CCT CAA AAT AAT      389
233 Ala Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn
234         280                               285                               290
235
236 TCG ATT TGC TGT ACC AAG TGC CAC AAA GGA ACC TAC TTG TAC AAT GAC      437
237 Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp
238         295                               300                               305
239
240 TGT CCA GGC CCG GGG CAG GAT ACG GAC TGC AGG GAG TGT GAG AGC GGC      485
241 Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly
242 310                               315                               320                               325
243
244 TCT TTC ACC GCT TCA GAA AAC CAC CTC AGA CAC TGC CTC AGC TGC TCC      533
245 Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser
246         330                               335                               340
247
248 AAA TGC CGA AAG GAA ATG GGT CAG GTG GAG ATC TCT TCT TGC ACA GTG      581
249 Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val
250         345                               350                               355
251
252 GAC CGG GAC ACC GTG TGT GGC TGC AGG AAG AAG CAG TAC CGG CAT TAT      629
253 Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr
254         360                               365                               370
255
256 TGG AGT GAA AAC CTT TTC CAG TGC TTC AAT TGC AGC CTC TGC CTC AAT      677
257 Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn
258 375                               380                               385

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PAGE: 1

SEQUENCE MISSING ITEM REPORT
PATENT APPLICATION US/08/804,166

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TIME: 17:05:45

INPUT SET: S16859.raw

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